Introduction

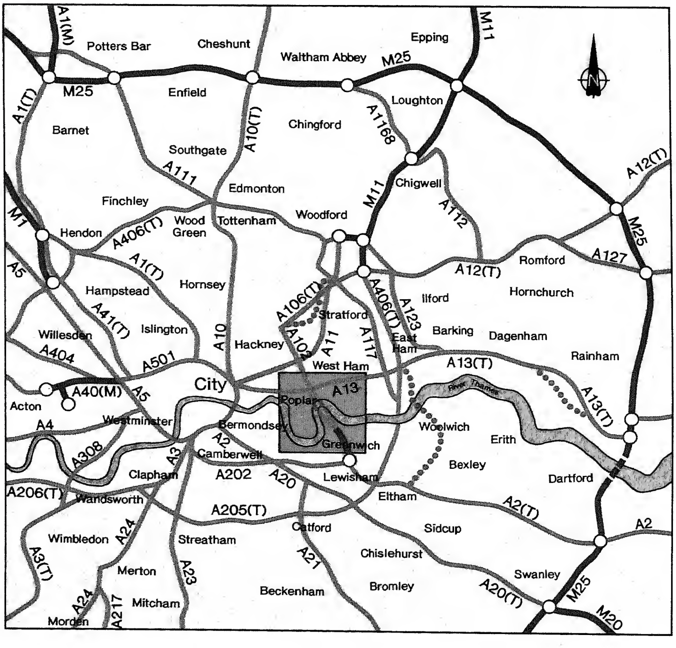
The two existing A102 Blackwall Tunnels provide a strategic crossing of the River Thames in East London. They connect the A2 in the south with the A13, the City, the A11 and Stratford in the north.

The first tunnel was opened, for horse drawn traffic, in 1897. This has been used for northbound only traffic since the southbound tunnel was opened in 1967. By the 1980's traffic demand had grown to a level at which additional capacity had to be considered.

In 1989 the Secretary of State for Transport added a third river crossing to the list of schemes in the roads programme. Consultants were appointed to investigate and advise on the engineering, environmental and economic aspects of the options for the scheme.

The results of these studies are summarised in this brochure. Briefly it was found that the additional capacity could be provided by a bridge or a tunnel:

> The **bridge scheme** consists of a new two-way bridge crossing the River Thames and a new link road into the Isle of Dogs from the north. It is **the option that the Department of Transport proposes to adopt as the preferred scheme.**
>
> The **tunnel scheme** consists of a replacement northbound tunnel and a new spur tunnel from the existing northbound tunnel to the Isle of Dogs, which would provide a two-way link from the south for light vehicles only. **The Department of Transport proposes to reject this option.**



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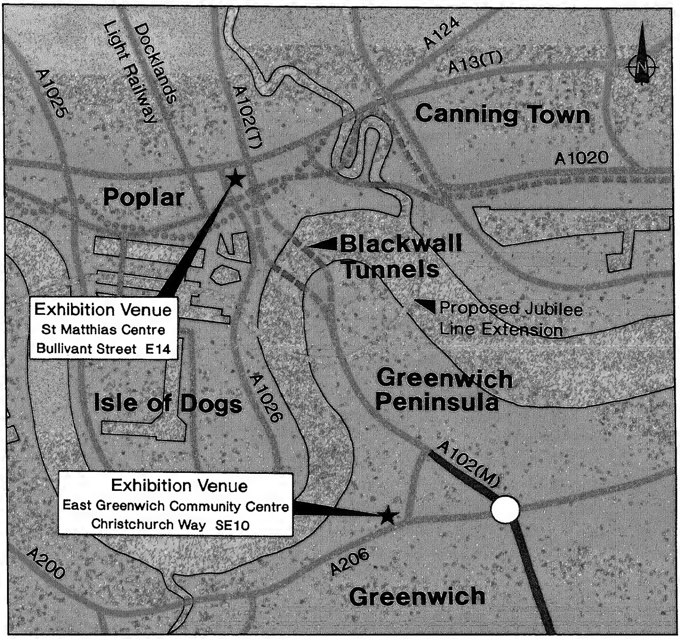

Proposals Exhibition

You are welcome to attend a free exhibition of the proposals at the following venues:

Greenwich:
East Greenwich Community Centre, Christchurch Way, SE10

Wednesday	12 May 1993 -	2.00pm - 9.00pm
Thursday	13 May 1993 -	2.00pm - 9.00pm

Poplar:
St Matthias Centre, Bullivant Street, Poplar, E14

Friday	14 May 1993 -	1.00pm - 9.00pm
Saturday	15 May 1993 -	10.00am - 4.00pm

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Free Bus Service:

On Saturday 15 May only there will be a free bus service operating from Greenwich to the exhibition venue in Poplar. It will depart from the East Greenwich Community Centre at approximately 20 minute intervals between 10.00am and 3.20pm. The last service returning to Greenwich will depart from Poplar at 4.15pm.

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Why Provide a Third Crossing at Blackwall?

Regular traffic congestion is a major problem in the area. It causes delays and accidents, wastes resources, affects the environment and handicaps the regeneration of London's Docklands including the Greenwich Peninsula.

Major delays are experienced on the approaches to the A102 at the Blackwall Tunnels, particularly on the approach to the northbound tunnel in the morning peak period. This is relieved to some extent by the operation of a northbound contraflow in the southbound tunnel. However, this can only be operated for limited periods as it results in delays on the southbound approach.

The existing northbound tunnel is substandard and cannot be used by vehicles over 13′ 4″ in height. Overheight vehicles trying unsuccessfully to enter the tunnel frequently cause severe delays to other users.

The A13 is one of London's major radial routes, providing access to the City and central London and Docklands. Its junction with the A102 is presently subject to severe congestion arising from high traffic volumes and conflicting turning movements.

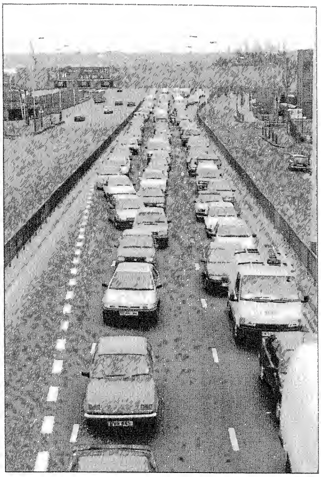
Congestion regularly leads to periods of prolonged idling or slow moving traffic which in turn causes increased emissions of air pollution. High levels of air pollution occur close to locations such as the tunnel approaches and the portals, most particularly when slow moving vehicles are queuing on the approach roads and various slip roads. This regular queuing also causes a significant number of end shunt accidents.

Proposed major commercial and residential developments within Docklands and on the Greenwich Peninsula will add significantly to existing traffic congestion, particularly between the Isle of Dogs and the junction of the A102 with the A13.

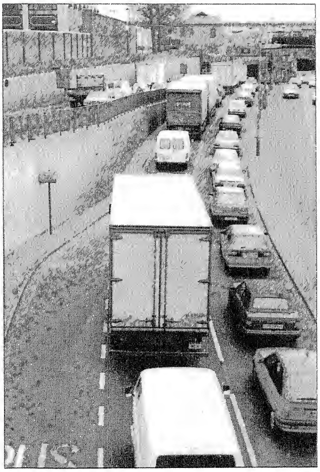
The Aim of the Proposals

The aim of the current proposals is to provide for existing traffic needs and those related to planned development and improvements to the local environment without bringing pressure for further improvements elsewhere in the road system. They take account of current proposals for public transport and are likely to be compatible with recently proposed plans for the Channel Tunnel Rail Link and East Thames Corridor.

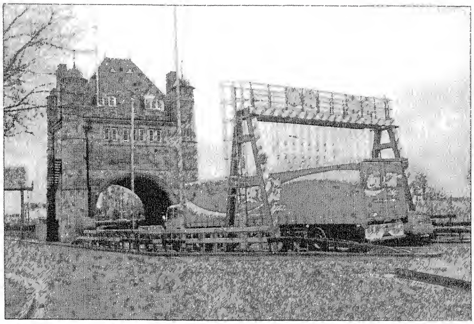
It is necessary to plan at this stage for improved connections to Canary Wharf and Heron Quays, to be provided at some time in the future.



Heavy congestion on the southern approaches to the Blackwall Tunnels during the morning peak period. This situation occurs almost every working morning.

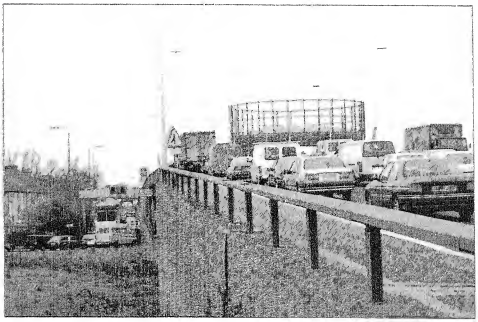


Congestion on the northern approach is especially bad during the evening peak period.



Overheight vehicle detection equipment is used to warn drivers of the limited headroom in the northbound tunnel.

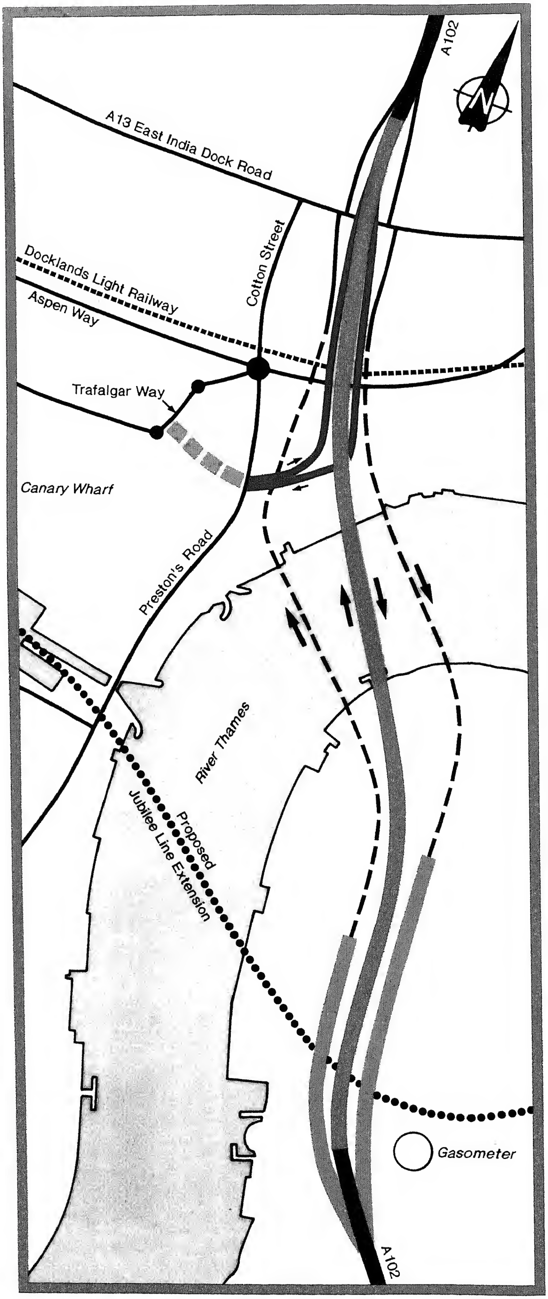
The contraflow system operates in the southbound tunnel during the morning peak period to provide another lane for northbound traffic.



Congestion tails back to Blackwall Lane and beyond.

Preferred Option - The Bridge Scheme

- The problem at the junction of the A102 with the A13 will be solved for the immediate future by the Department of Transport's A13 Cotton Street/Blackwall Tunnel improvement scheme, which could start in 1993.
- The existing bottlenecks at the tunnel approaches would be removed by the **construction of a dual two lane bridge.** The bridge together with approach structures would pass over the A13 junction, Aspen Way and the River Thames, thus catering for longer distance traffic. The existing tunnels would operate as at present, except that on the northern side they would terminate at the A13 and serve traffic of a more local nature. The A102 would be improved between Blackwall Lane and the southern end of the bridge.
- A link between the A102 and the Isle of Dogs, serving A102 traffic from north of the A13, could be provided by constructing slip roads from the northern bridge approach structures to Preston's Road. The choice of connection point with Preston's Road would depend on local planning requirements. This link would only be required if significant further development takes place in the Isle of Dogs.
- The bridge design would not be determined until a decision on the preferred scheme has been taken, following this consultation. To date a number of technical solutions have been investigated in order to establish the viability of the scheme.
- The bridge design would include separate provision for pedestrians and cyclists.



Legend

▬ A new dual two lane bridge

■ New link roads from the north

– – – – Existing tunnels unaltered

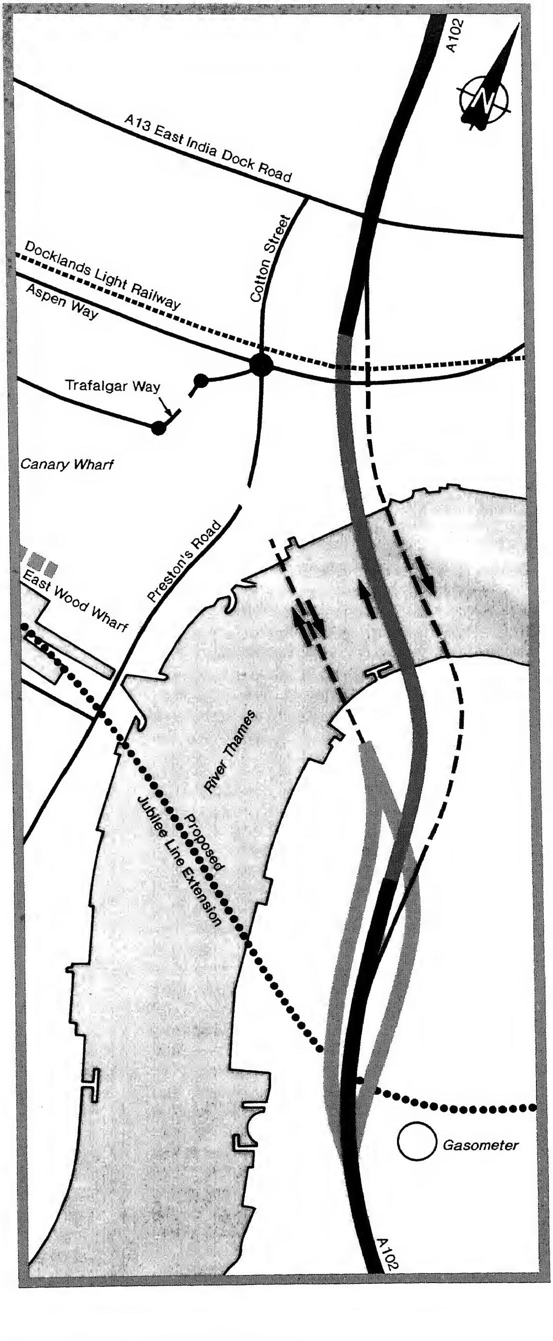
▬ A new southern approach interchange

▪ ▪ ▪ A new link to Canary Wharf

BOTH OPTIONS WILL BE SHOWN

Rejected Option - The Tunnel Scheme

- The A13 Cotton Street/Blackwall Tunnel scheme would be implemented, as for bridge option.
- The capacity of the main river crossing would be improved by the **construction of a two lane third tunnel.** This would replace the existing substandard northbound tunnel and would be constructed either by boring, using a machine of advanced design, or by sinking precast concrete sections (immersed tubes) into a trench in the river bed. Construction of the immersed tubes would require the use of a casting basin. On the Greenwich side there would be a new approach ramp to the third tunnel's portal which would be constructed slightly to the west of the existing southbound tunnel portal. On the northern side the new portal would be constructed on the site presently occupied by the tunnel control centre which would be transferred to the south bank.
- Between Blackwall Lane and the southern end of the third tunnel the A102 would be improved, as for the bridge option, but additionally three new tunnel accesses would have to be constructed, involving complex engineering works.
- A link between the A102 and the Isle of Dogs, serving traffic from the south of the river, would be provided by constructing a Spur tunnel from the northbound tunnel to either Trafalgar Way or East Wood Wharf. The northern Spur option would pass through the Grade II Listed Poplar Dock. The southern Spur option would also pass through the Grade I Listed Blackwall Basin.



Legend

▬ A new two lane tunnel

A new two directional spur tunnel (light vehicles only)

Alternative spur tunnel

- - - Existing tunnels retained

▬ A new southern approach interchange

▨ ▨ ▨ A new link to Canary Wharf

Facts about the Options

Properties Required:

For **both schemes** 10 houses at the Blackwall Lane junction and two others on Tunnel Avenue would have to be demolished. A number of these have already been purchased by organisations associated with the British Gas land redevelopment. About 15 commercial properties, a number of which are semi-derelict, would be required.

Land Take:

Permanent land take for **either scheme** would be about 6.5 hectares (16 acres). Of this 3 hectares (7.5 acres) is land awaiting redevelopment. In the case of a **tunnels scheme** it would be possible to allow development, with some restrictions, above the **tunnels.** Some additional land would be needed for work sites for a **bridge** or bored **tunnel.** An immersed tube **tunnel** would require a larger area.

Accidents:

Construction of **either scheme** to modern standards would lead to a reduction in the number of accidents - both "damage-only" and "personal injury". The majority of damage-only accidents are "nose-to-tail shunts" which occur on the congested approaches to the tunnel; these would be reduced as the level of congestion is relieved.

Vehicular Traffic:

The **bridge scheme** adding four new traffic lanes would provide for existing and predicted traffic requirements at the Blackwall river crossing and at the busy junction of the A102 and A13. The **tunnels scheme,** would provide only two additional lanes. **Either scheme** would cater for further development and therefore traffic generation in the Isle of Dogs.

Access to Development:

Either scheme would greatly improve accessibility to the major development areas both north and south of the river. The proposed Port Greenwich development south of the river would benefit from improved access arrangements and reduced congestion on the southern approaches. Docklands development on the Isle of Dogs and over a wider area would benefit from reduced congestion at the river crossing. With the **bridge scheme** improved accessibility from the north would, if required, be provided by way of the Preston's Road link. The **Spur** section of the **tunnels scheme** would provide improved accessibility from the south.

Community Severance:

Severance across the river would be much reduced. The **bridge scheme,** but not the **tunnels scheme,** would include provisions for pedestrians and cyclists to cross the river. Access across the A102 would remain largely unchanged. The existing footbridge on the southern approach would be replaced for use by both pedestrians and cyclists. The properties fronting the A102 on the southern approach would have better and safer access as a result of the improvements to the Blackwall Lane junction and to Tunnel Avenue.

Visual Impact:

For either scheme the approach roads on the Greenwich side of the river would largely follow the line of the existing A102, passing through areas of industrial estates or sites scheduled for redevelopment. The **tunnels scheme** would have little visual impact compared with the existing situation, except where the **Spur** emerges at East Wood Wharf. The **bridge** would make a significant visual impact, particularly on properties adjacent to the existing northern tunnel approach, but would also make a positive and exciting contribution to the city and river landscapes. Development of an outstanding landmark bridge would complement buildings of high architectural merit already completed or proposed in the corridor and could add impetus to the regeneration of the whole area. It would form a visual link between developments on each side of the river.

Noise:

For the **bridge scheme** it is estimated that the majority of properties would experience no significant increase in noise levels, except for a few in the Preston's Road area. Noise levels would be minimised by the use of suitable noise barriers on the **bridge** structure and at other appropriate locations and by roofing over the approach to the existing tunnel adjacent to Robin Hood Gardens. Here some properties would experience a reduction in noise levels. With the **tunnels scheme** residential properties would experience little change in noise levels except in the Preston's Road and East Wood Wharf area where there would be an increase due to the **Spur.**

Air Quality:

For **either scheme** the reduced levels of traffic congestion would improve air quality at existing problem areas such as alongside the tunnel approaches and at the portals. However, the **bridge scheme** would generally improve the existing situation regarding dispersion and dilution of air pollution. With the **tunnels scheme** there would be less improvement and at the **Spur** portal measures to limit an increase in pollution would be required.

Ecology:

The areas both north and south of the Thames are of limited nature conservation interest. Although the River Thames is designated a Site of Metropolitan Importance for Nature Conservation neither scheme is likely to have a significant impact.

Archæology:

The area affected south of the Thames contains little of archæological significance. The main area of interest is where the new crossing passes through the remains of 17th century dock structures on the north bank of the Thames.. Here construction of the **bridge** piers and link road earthworks should have only a limited effect, but the effect of the **tunnel** would be more significant.

Disruption during Construction:

The existing traffic capacity of the crossing would be maintained during the construction period. A **bridge** would take about two years to build and a **tunnel** four years. Local traffic diversions and disruptions would be kept to a minimum. All work would be subject to environmental, health and safety requirements.

Groundwater and Contamination:

The limited amount of contaminated material excavated for **bridge** foundations would need to be removed from the site. The risk of transferring pollution from the upper contaminated ground to the deeper chalk aquifer could be minimised by the adoption of appropriate construction methods. With the **tunnels scheme** the risks would be much greater. High priority would have to be given to the adoption of a construction method that would minimise the risk of spreading or spillage of the large amounts of contaminated material that would have to be excavated.

River Navigation:

The river at the location of the proposed crossing is some 340 metres wide. It is likely that the **bridge** would span this width, with no supports in the river. Consultations are continuing with the Port of London Authority to ensure that sufficient clearance is provided for shipping that needs to pass upstream. Construction of a **tunnel** by the "immersed tube" method would require the PLAs agreement to the methods adopted.

Airport Requirements:

London City Airport is situated in the Royal Docks some 2½ miles downstream. The **bridge** would not affect the operation of the airport.

Flexibility:

In the case of the **tunnels scheme** there is no flexibility for variation in the amount of capacity provided. With a **bridge** it would be possible to decide nearer to the time of construction whether to provide additional links into the Isle of Dogs.

Cost and Value for Money:

The estimated total cost of the **bridge scheme** is approximately £130 million at 1992 prices. Benefits to road users in respect of reduced travel times, reduced vehicle operating costs such as savings in fuel bills, and reduced level of accidents, would exceed the cost of the scheme, by between 30 and 100 per cent, according to the level of traffic growth.

The estimated cost of the **tunnels scheme** is approximately £185m at 1992 prices. The benefits would not exceed the cost unless the existing level of employment development grows at a rate that would produce an overall increase of about 100% by the year 2015.

Summary:

These are complex schemes for which uncertainty in planning matters related to Docklands and environmental factors have to be taken into account. The substantial differences between the costs and benefits of the **bridge** and **tunnels schemes** clearly favours the **bridge scheme.** This is reinforced by the **bridge** being justified without any further development in Docklands and being superior in terms of meeting traffic objectives. Both schemes have enviromental benefits and detriments, but any net benefit with the **tunnels** is insufficient to overcome the robustness of the factors supporting the choice of the **bridge scheme as the preferred option.**

How You Can Help

Please read this brochure carefully and if possible visit the exhibition. If you have any comments, please write to the Department of Transport by 26 June 1993 at the address given below.

The schemes have been developed by Travers Morgan, with the exception of the Spur which was designed by Mott MacDonald, under the direction of the Department's London Docklands Division. Further information about these proposals or the exhibition may be obtained from:

The Director
Department of Transport
London Docklands Division
5th Floor North
South Quay Plaza II
183 Marsh Wall
LONDON
E14 9SH

Telephone No: 071-712 5713

What Happens Next?

All views including those of the local authorities and other interested organisations will be carefully considered and a report made to the Secretary of State for Transport before a decision on the scheme is announced. The line of the scheme was protected for planning purposes in 1990.

If the Secretary of State decides to proceed, detailed design would be carried out and the statutory orders required by the Highways Act 1980 would be published. Anyone wishing to comment on or object to the orders would have the opportunity to do so and there may be a public inquiry before an independent inspector nominated by the Lord Chancellor. Giving your views now will not prejudice your rights to comment later.

referred Option

he northern approach viaduct provides a
ual two lane carriageway and would pass
er the Aspen Way, Docklands Light
ailway, tunnel portals and the A13.

he viaduct connects with the existing
orthern approach some distance north of
e A13 junction, adjacent to Balfron Tower,
d this would have the effect of removing all
rough traffic from the junction. The general
yout of the A13 junction, which is shortly to
e improved by the Department of Transport
ould remain largely unchanged.

The existing tunnel control centre at Naval Row would be demolished to make way for the substructure of the approach viaduct.

A new link would provide access to developments on the water front.

The bridge is aligned between the two existing tunnels and follows a straight path across the river. It is likely that the bridge would clear span the Thames with the main piers approximately 370 metres apart located behind the existing quay walls. This preserves complete freedom of river traffic operations.

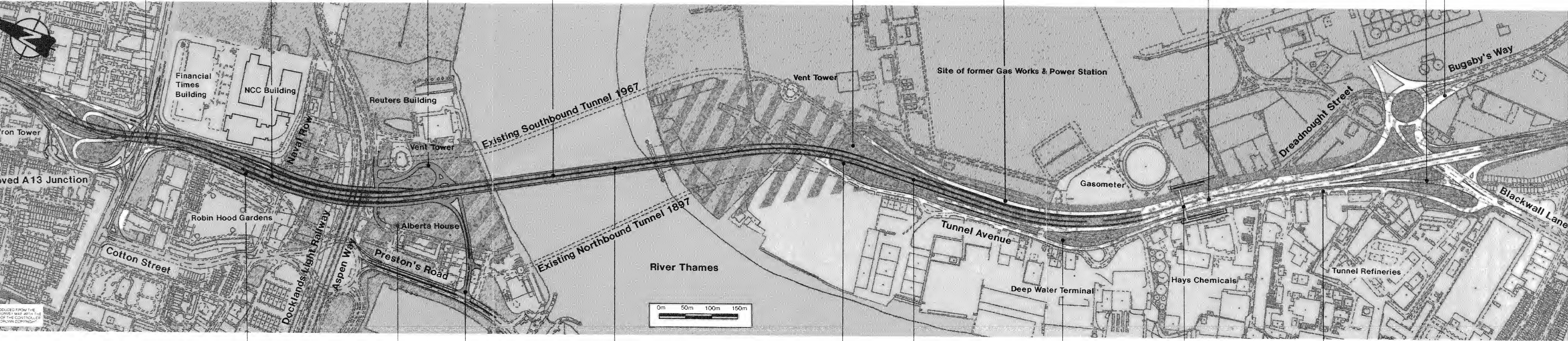
A new tunnel control centre would be relocated on the south bank.

Slip roads would provide a free-flow connection between the A102 and the existing northbound and southbound tunnels which would be used for local traffic.

The A102 would be widened to provide four lanes between Blackwall Lane and the local tunnel slip roads to allow for traffic weaving movements. Adjacent to the gasometer the road would be realigned over a short length to improve the geometry of the approach to the crossing. Elsewhere widening of the A102 to the east would minimise the effects on existing businesses on the west side of Tunnel Avenue, and lessen traffic delays during construction.

10 residential properties would be demolished.

Improvements to Blackwall Lane proposed by British Gas for their Port Greenwich development would be modified. The existing north-facing slip roads would be realigned and an enlarged signal controlled roundabout would be provided east of the A102. To the west an improved signal controlled junction would be provided.



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For significant future development on the Isle of Dogs, new slip roads forming the Preston's Road Link would merge/diverge from the approach viaduct at the A13. These slip roads would consist of viaducts passing over the Docklands Light Railway and Aspen Way to connect with a new roundabout situated close to the river bank.

Area of integrated landscaping/development to be determined in conjunction with planning authorities.

The position of the roundabout and the alignment of the link with Preston's Road is dependant on local traffic and planning requirements.

The vertical alignment and the length of the bridge is dictated by a requirement to preserve navigation clearance for river traffic. In addition the bridge must take account of the proximity of London City Airport.

2 residential properties would be demolished.

The southern approach viaduct provides for a dual two lane carriageway and would connect with the existing southern approach adjacent to the gasometer.

The existing listed gateway for the 19th century tunnel would no longer form an entrance to the tunnel, but would be retained within a landscape setting. A segregated pedestrian/cycle route between the A102 and Tunnel Avenue would be provided and pass through the gateway structure.

A new bridge would be provided for pedestrians and cyclists.

Tunnel Avenue would be improved to allow two-way local traffic throughout its length to give access to existing commercial and industrial development.

Legend

▨ New Bridge
▨ New Link Roads
☐ Improved Roads
▨ Existing A102
▨ Landscape Areas
▨ Site Scheduled for Redevelopment